WHAT IS CLAIMED IS:

1. An inductive device, comprising:

a magnetically permeable core having a gap formed therein;

at least one winding disposed proximate to said core;

a magnetically permeable element disposed at least partially within said gap; and

an insulator disposed proximate to said magnetically permeable element;

wherein said permeable element, core, and insulator cooperate to provide a desired inductance characteristic as a function of current.

2. The inductive device of Claim 1, wherein said magnetically permeable element comprises an alloy of metals.

3. The inductive device of Claim 1, wherein said winding is disposed at a prescribed distance from said gap.

4. The inductive device of Claim 1, wherein said gap comprises a substantially "V" shape.

5. The inductive device if Claim 1, wherein said inductance characteristic comprises an inductance value associated with a first condition which is substantially larger than the value associated with a second condition.

6. The inductive device of Claim 5, wherein said device is adapted for use in a telecommunications circuit, and said first condition comprises an "on-hook" current, and said second condition comprises and "off-hook" current.

7. A method of manufacturing a controlled inductance device, comprising:

providing a magnetically permeable toroid core having a gap extending through at least a portion thereof, said gap having sidewalls associated therewith;

winding a plurality of conductive turns around said core;

disposing a magnetically permeable element at least partially within said gap; and

disposing an insulating element within said magnetically permeable element such that said permeable element physically contacts said core.

8. The method of Claim 7, wherein said acts of disposing comprising said permeable element and insulating element, respectively, to a predetermined depth within said gap, said predetermined depth being related at least in part to said controlled inductance.

9. A method of manufacturing a controlled inductance toroid, comprising:

providing a magnetically permeable toroid core having a gap formed therein;

winding at least one wind of conductive material around said core, said winding disposed at least a predetermined distance from said gap;

providing a thin sheet of magnetically permeable material;

folding said sheet of magnetically permeable material at least once;

disposing between at least one fold of said magnetically permeable material at least one insulating element such that said insulating element prevents electrical contact at least portions of said sheet; and

disposing said folded sheet and at least one insulating element at least partially within said gap, such that portions of said sheet physically contact said core.

10. An inductive device, comprising:

a magnetically permeable toroidal core having a gap formed therein;

at least one winding wound around at least a portion of said core; and

means for magnetically bridging said gap, said means for bridging cooperating with said core and at least one winding to provide a desired inductance characteristic for said device during operation thereof in a circuit.

11. A method of manufacturing an inductive device, comprising:

providing a substantially toroidal core having a gap formed therein, said gap extending at least partly through the thickness of said core;

providing a quantity of a first material, said first material adapted to change at least one physical property upon application of a stimulus;

providing a magnetically permeable element adapted to bridge at least a portion of said gap; and

disposing said first material, said permeable element, and said core proximate one another and in such fashion that when said stimulus is applied, said permeable element is brought into close cooperation with said core.

12. The method of Claim 11, wherein said act of providing a quantity comprises providing a substantially cylindrical section of heat-reactive tubing, said heat-reactive tubing changing at least one physical dimension in response to said stimulus.

13. The method of Claim 12, wherein said permeable element comprises a sheet of substantially alloy-based material, said sheet being configured to conform substantially to a portion of a periphery region of said gap during said application of said stimulus.

14. The method of Claim 12, wherein said act of disposing comprises:

placing said core and said permeable element within a center volume of said cylindrical section; and

applying said stimulus to said first material to cause said change in said at least one physical dimension.

15. An inductive device manufactured by the method comprising:

providing a substantially toroidal core having a gap formed therein, said gap extending at least partly through the thickness of said core;

providing a quantity of stimulus-responsive material, said first material adapted to change at least one physical property upon application of a stimulus;

providing a magnetically permeable element adapted to bridge at least a portion of said gap;

disposing said permeable element and said core proximate one another and substantially within a volume formed by said stimulus responsive material; and

applying said stimulus to said material, said stimulus causing said material to force said permeable material into communication with said core, thereby bridging said gap.

16. The device of Claim 15, the method further comprising:

coating at least portions of said device with a first substantially insulating coating; and

winding a plurality of turns of a conductor around said core and substantially atop said coating.

17. The device of Claim 15, the method further comprising:

winding a plurality of turns of a conductor around said core; and

coating at least portions of said device and said winding with a first substantially insulating coating.

18. The device of Claim 16, the method further comprising:

coating at least portions of said device and said winding with a second substantially insulating coating.

19. An inductive device adapted for use in a telecommunications circuit, said device having a controlled inductance characteristic, comprising:

a magnetically permeable toroidal core having one gap formed therein

at least one winding wound on said core; and

at least one magnetically permeable element adapted to bridge at least a portion of said gap;

wherein said inductance characteristic comprises an inductance value associated with an "on-hook" current is substantially larger than the inductance value associated with an "off-hook" current.

20. The device of Claim 19, wherein:

said at least one element is formed of a magnetically permeable material and in a first predetermined configuration; and

said gap is formed in a second predetermined configuration;

said first and second predetermined configurations and said material cooperating to provide said inductance characteristic.

21. The device of Claim 20, wherein said first predetermined configuration comprises a reduced cross-sectional area of said element, and said second predetermined configuration comprises a particular gap width and shape.

22. A telecommunications device having:

a first port for interfacing with an outside telephone line;

a second port for transferring first signals between said first port and a first user device;

a third port for transferring second signals between said first port and a second user device; and

a filter circuit, said filter circuit being adapted to selectively block said first signals from being transferred to said second port, said filter circuit comprising at least one toroidal core device having an inductance characteristic.

wherein said inductance characteristic comprises an inductance value associated with an "on-hook" current is substantially larger than the inductance value associated with an "off-hook" current.

23. A method of manufacturing a controlled induction electronic device, comprising:

providing a substantially toroidal core having a gap formed therein;

providing a permeable gap-bridging element;

disposing said element substantially across said gap;

coating said core and element; and

winding a plurality of conductor turns onto said core.

24. The method of Claim 23, wherein said act of disposing comprises mating said element to said core such that (i) at least portions of said element are in direct physical contact with respective sides of said core proximate said gap; and (ii) said element and said core are substantially fixed in position relative to one another.

25. The method of Claim 24, wherein said act of coating comprises applying a parylene coating using a vacuum/vapor deposition process.

26. A controlled induction electronic device, comprising:

a substantially toroidal core having a gap formed therein;

at least one permeable element having first and second regions and being disposed substantially across said gap, said first and second region being in direct physical contact with respective portions of said core on either side of said gap;

a coating covering substantially all of said core and said at least one element; and

at least one winding disposed around said core and substantially atop said coating.